



OIIPE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/022,390

DATE: 02/05/2002
TIME: 13:02:32

Input Set : N:\jumbos\022390
Output Set: N:\CRF3\02052002\J022390.raw

ENTERED

3 <110> APPLICANT: Vega, Manuel
4 Drittanti, Lila
5 Flaux, Marjorie
7 <120> TITLE OF INVENTION: MUTANT RECOMBINANT ADENO-ASSOCIATED VIRUSES
9 <130> FILE REFERENCE: 37851-912
C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/022,390
C--> 12 <141> CURRENT FILING DATE: 2001-12-17
14 <150> PRIOR APPLICATION NUMBER: 60/315,382
15 <151> PRIOR FILING DATE: 2001-08-27
18 <160> NUMBER OF SEQ ID NOS: 735
20 <170> SOFTWARE: FastSEQ for Windows Version 4.0
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 621
24 <212> TYPE: PRT
25 <213> ORGANISM: Artificial Sequence
27 <220> FEATURE:
28 <223> OTHER INFORMATION: Mutant rep protein: rep78 4 GCT
30 <400> SEQUENCE: 1
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32 1 5 10 15
33 Glu His Leu Pro Gly Ile Ser Asp Ser Phe Val Asn Trp Val Ala Glu
34 20 25 30
35 Lys Glu Trp Glu Leu Pro Pro Asp Ser Asp Met Asp Leu Asn Leu Ile
36 35 40 45
37 Glu Gln Ala Pro Leu Thr Val Ala Glu Lys Leu Gln Arg Asp Phe Leu
38 50 55 60
39 Thr Glu Trp Arg Arg Val Ser Lys Ala Pro Glu Ala Leu Phe Phe Val
40 65 70 75 80
41 Gln Phe Glu Lys Gly Glu Ser Tyr Phe His Met His Val Leu Val Glu
42 85 90 95
43 Thr Thr Gly Val Lys Ser Met Val Leu Gly Arg Phe Leu Ser Gln Ile
44 100 105 110
45 Arg Glu Lys Leu Ile Gln Arg Ile Tyr Arg Gly Ile Glu Pro Thr Leu
46 115 120 125
47 Pro Asn Trp Phe Ala Val Thr Lys Thr Arg Asn Gly Ala Gly Gly Gly
48 130 135 140
49 Asn Lys Val Val Asp Glu Cys Tyr Ile Pro Asn Tyr Leu Leu Pro Lys
50 145 150 155 160
51 Thr Gln Pro Glu Leu Gln Trp Ala Trp Thr Asn Met Glu Gln Tyr Leu
52 165 170 175
53 Ser Ala Cys Leu Asn Leu Thr Glu Arg Lys Arg Leu Val Ala Gln His
54 180 185 190
55 Leu Thr His Val Ser Gln Thr Gln Glu Gln Asn Lys Glu Asn Gln Asn

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56	195	200	205
57	Pro Asn Ser Asp Ala	Pro Val Ile Arg Ser Lys Thr	Ser Ala Arg Tyr
58	210	215	220
59	Met Glu Leu Val Gly Trp	Leu Val Asp Lys Gly Ile Thr	Ser Glu Lys
60	225	230	235
61	Gln Trp Ile Gln Glu Asp	Gln Ala Ser Tyr Ile Ser	Phe Asn Ala Ala
62	245	250	255
63	Ser Asn Ser Arg Ser Gln	Ile Lys Ala Ala Leu Asp	Asn Ala Gly Lys
64	260	265	270
65	Ile Met Ser Leu Thr Lys	Thr Ala Pro Asp Tyr Leu	Val Gly Gln Gln
66	275	280	285
67	Pro Val Glu Asp Ile Ser	Ser Asn Arg Ile Tyr Lys	Ile Leu Glu Leu
68	290	295	300
69	Asn Gly Tyr Asp Pro Gln	Tyr Ala Ala Ser Val Phe	Leu Gly Trp Ala
70	305	310	315
71	Thr Lys Lys Phe Gly Lys	Arg Asn Thr Ile Trp Leu	Phe Gly Pro Ala
72	325	330	335
73	Thr Thr Gly Lys Thr Asn	Ile Ala Glu Ala Ile Ala	His Thr Val Pro
74	340	345	350
75	Phe Tyr Gly Cys Val Asn	Trp Thr Asn Glu Asn Phe	Pro Phe Asn Asp
76	355	360	365
77	Cys Val Asp Lys Met Val	Ile Trp Trp Glu Glu Gly	Lys Met Thr Ala
78	370	375	380
79	Lys Val Val Glu Ser Ala	Lys Ala Ile Leu Gly Gly	Ser Lys Val Arg
80	385	390	395
81	Val Asp Gln Lys Cys Lys	Ser Ser Ala Gln Ile Asp	Pro Thr Pro Val
82	405	410	415
83	Ile Val Thr Ser Asn Thr	Asn Met Cys Ala Val Ile	Asp Gly Asn Ser
84	420	425	430
85	Thr Thr Phe Glu His Gln	Gln Pro Leu Gln Asp Arg	Met Phe Lys Phe
86	435	440	445
87	Glu Leu Thr Arg Arg Leu	Asp His Asp Phe Gly Lys	Val Thr Lys Gln
88	450	455	460
89	Glu Val Lys Asp Phe Phe	Arg Trp Ala Lys Asp His	Val Val Glu Val
90	465	470	475
91	Glu His Glu Phe Tyr Val	Lys Lys Gly Gly Ala Lys	Lys Arg Pro Ala
92	485	490	495
93	Pro Ser Asp Ala Asp Ile	Ser Glu Pro Lys Arg Val	Arg Glu Ser Val
94	500	505	510
95	Ala Gln Pro Ser Thr Ser	Asp Ala Glu Ala Ser Ile	Asn Tyr Ala Asp
96	515	520	525
97	Arg Tyr Gln Asn Lys Cys	Ser Arg His Val Gly Met	Asn Leu Met Leu
98	530	535	540
99	Phe Pro Cys Arg Gln Cys	Glu Arg Met Asn Gln Asn	Ser Asn Ile Cys
100	545	550	555
101	Phe Thr His Gly Gln Lys	Asp Cys Leu Glu Cys Phe	Pro Val Ser Glu
102	565	570	575
103	Ser Gln Pro Val Ser Val	Val Lys Lys Ala Tyr Gln	Lys Leu Cys Tyr
104	580	585	590

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105 Ile His His Ile Met Gly Lys Val Pro Asp Ala Cys Thr Ala Cys Asp
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107 Leu Val Asn Val Asp Leu Asp Asp Cys Ile Phe Glu Gln
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110 <210> SEQ ID NO: 2
111 <211> LENGTH: 536
112 <212> TYPE: PRT
113 <213> ORGANISM: Artificial Sequence
115 <220> FEATURE:
116 <223> OTHER INFORMATION: Mutant rep protein: rep68 4 GCT
118 <400> SEQUENCE: 2
119 Thr Ala Gly Ala Tyr Glu Ile Val Ile Lys Val Pro Ser Asp Leu Asp
120 1           5           10           15
121 Glu His Leu Pro Gly Ile Ser Asp Ser Phe Val Asn Trp Val Ala Glu
122           20           25           30
123 Lys Glu Trp Glu Leu Pro Pro Asp Ser Asp Met Asp Leu Asn Leu Ile
124           35           40           45
125 Glu Gln Ala Pro Leu Thr Val Ala Glu Lys Leu Gln Arg Asp Phe Leu
126           50           55           60
127 Thr Glu Trp Arg Arg Val Ser Lys Ala Pro Glu Ala Leu Phe Phe Val
128 65           70           75           80
129 Gln Phe Glu Lys Gly Glu Ser Tyr Phe His Met His Val Leu Val Glu
130           85           90           95
131 Thr Thr Gly Val Lys Ser Met Val Leu Gly Arg Phe Leu Ser Gln Ile
132           100          105          110
133 Arg Glu Lys Leu Ile Gln Arg Ile Tyr Arg Gly Ile Glu Pro Thr Leu
134           115          120          125
135 Pro Asn Trp Phe Ala Val Thr Lys Thr Arg Asn Gly Ala Gly Gly Gly
136           130          135          140
137 Asn Lys Val Val Asp Glu Cys Tyr Ile Pro Asn Tyr Leu Leu Pro Lys
138 145          150          155          160
139 Thr Gln Pro Glu Leu Gln Trp Ala Trp Thr Asn Met Glu Gln Tyr Leu
140           165          170          175
141 Ser Ala Cys Leu Asn Leu Thr Glu Arg Lys Arg Leu Val Ala Gln His
142           180          185          190
143 Leu Thr His Val Ser Gln Thr Gln Glu Gln Asn Lys Glu Asn Gln Asn
144           195          200          205
145 Pro Asn Ser Asp Ala Pro Val Ile Arg Ser Lys Thr Ser Ala Arg Tyr
146           210          215          220
147 Met Glu Leu Val Gly Trp Leu Val Asp Lys Gly Ile Thr Ser Glu Lys
148 225          230          235          240
149 Gln Trp Ile Gln Glu Asp Gln Ala Ser Tyr Ile Ser Phe Asn Ala Ala
150           245          250          255
151 Ser Asn Ser Arg Ser Gln Ile Lys Ala Ala Leu Asp Asn Ala Gly Lys
152           260          265          270
153 Ile Met Ser Leu Thr Lys Thr Ala Pro Asp Tyr Leu Val Gly Gln Gln
154           275          280          285
155 Pro Val Glu Asp Ile Ser Ser Asn Arg Ile Tyr Lys Ile Leu Glu Leu
156           290          295          300

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157 Asn Gly Tyr Asp Pro Gln Tyr Ala Ala Ser Val Phe Leu Gly Trp Ala
158 305                      310                      315                      320
159 Thr Lys Lys Phe Gly Lys Arg Asn Thr Ile Trp Leu Phe Gly Pro Ala
160                      325                      330                      335
161 Thr Thr Gly Lys Thr Asn Ile Ala Glu Ala Ile Ala His Thr Val Pro
162                      340                      345                      350
163 Phe Tyr Gly Cys Val Asn Trp Thr Asn Glu Asn Phe Pro Phe Asn Asp
164                      355                      360                      365
165 Cys Val Asp Lys Met Val Ile Trp Trp Glu Glu Gly Lys Met Thr Ala
166                      370                      375                      380
167 Lys Val Val Glu Ser Ala Lys Ala Ile Leu Gly Gly Ser Lys Val Arg
168 385                      390                      395                      400
169 Val Asp Gln Lys Cys Lys Ser Ser Ala Gln Ile Asp Pro Thr Pro Val
170                      405                      410                      415
171 Ile Val Thr Ser Asn Thr Asn Met Cys Ala Val Ile Asp Gly Asn Ser
172                      420                      425                      430
173 Thr Thr Phe Glu His Gln Gln Pro Leu Gln Asp Arg Met Phe Lys Phe
174                      435                      440                      445
175 Glu Leu Thr Arg Arg Leu Asp His Asp Phe Gly Lys Val Thr Lys Gln
176                      450                      455                      460
177 Glu Val Lys Asp Phe Phe Arg Trp Ala Lys Asp His Val Val Glu Val
178 465                      470                      475                      480
179 Glu His Glu Phe Tyr Val Lys Lys Gly Gly Ala Lys Lys Arg Pro Ala
180                      485                      490                      495
181 Pro Ser Asp Ala Asp Ile Ser Glu Pro Lys Arg Val Arg Glu Ser Val
182                      500                      505                      510
183 Ala Gln Pro Ser Thr Ser Asp Ala Glu Ala Ser Ile Asn Tyr Ala Asp
184                      515                      520                      525
185 Arg Leu Ala Arg Gly His Ser Leu
186                      530                      535
188 <210> SEQ ID NO: 3
189 <211> LENGTH: 621
190 <212> TYPE: PRT
191 <213> ORGANISM: Artificial Sequence
193 <220> FEATURE:
194 <223> OTHER INFORMATION: Mutant rep protein: rep78 10 GCG
196 <400> SEQUENCE: 3
197 Thr Ala Gly Phe Tyr Glu Ile Val Ile Ala Val Pro Ser Asp Leu Asp
198 1                      5                      10                      15
199 Glu His Leu Pro Gly Ile Ser Asp Ser Phe Val Asn Trp Val Ala Glu
200                      20                      25                      30
201 Lys Glu Trp Glu Leu Pro Pro Asp Ser Asp Met Asp Leu Asn Leu Ile
202                      35                      40                      45
203 Glu Gln Ala Pro Leu Thr Val Ala Glu Lys Leu Gln Arg Asp Phe Leu
204                      50                      55                      60
205 Thr Glu Trp Arg Arg Val Ser Lys Ala Pro Glu Ala Leu Phe Phe Val
206 65                      70                      75                      80
207 Gln Phe Glu Lys Gly Glu Ser Tyr Phe His Met His Val Leu Val Glu
208                      85                      90                      95

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209 Thr Thr Gly Val Lys Ser Met Val Leu Gly Arg Phe Leu Ser Gln Ile
210      100      105      110
211 Arg Glu Lys Leu Ile Gln Arg Ile Tyr Arg Gly Ile Glu Pro Thr Leu
212      115      120      125
213 Pro Asn Trp Phe Ala Val Thr Lys Thr Arg Asn Gly Ala Gly Gly Gly
214      130      135      140
215 Asn Lys Val Val Asp Glu Cys Tyr Ile Pro Asn Tyr Leu Leu Pro Lys
216 145      150      155      160
217 Thr Gln Pro Glu Leu Gln Trp Ala Trp Thr Asn Met Glu Gln Tyr Leu
218      165      170      175
219 Ser Ala Cys Leu Asn Leu Thr Glu Arg Lys Arg Leu Val Ala Gln His
220      180      185      190
221 Leu Thr His Val Ser Gln Thr Gln Glu Gln Asn Lys Glu Asn Gln Asn
222      195      200      205
223 Pro Asn Ser Asp Ala Pro Val Ile Arg Ser Lys Thr Ser Ala Arg Tyr
224      210      215      220
225 Met Glu Leu Val Gly Trp Leu Val Asp Lys Gly Ile Thr Ser Glu Lys
226 225      230      235      240
227 Gln Trp Ile Gln Glu Asp Gln Ala Ser Tyr Ile Ser Phe Asn Ala Ala
228      245      250      255
229 Ser Asn Ser Arg Ser Gln Ile Lys Ala Ala Leu Asp Asn Ala Gly Lys
230      260      265      270
231 Ile Met Ser Leu Thr Lys Thr Ala Pro Asp Tyr Leu Val Gly Gln Gln
232      275      280      285
233 Pro Val Glu Asp Ile Ser Ser Asn Arg Ile Tyr Lys Ile Leu Glu Leu
234      290      295      300
235 Asn Gly Tyr Asp Pro Gln Tyr Ala Ala Ser Val Phe Leu Gly Trp Ala
236 305      310      315      320
237 Thr Lys Lys Phe Gly Lys Arg Asn Thr Ile Trp Leu Phe Gly Pro Ala
238      325      330      335
239 Thr Thr Gly Lys Thr Asn Ile Ala Glu Ala Ile Ala His Thr Val Pro
240      340      345      350
241 Phe Tyr Gly Cys Val Asn Trp Thr Asn Glu Asn Phe Pro Phe Asn Asp
242      355      360      365
243 Cys Val Asp Lys Met Val Ile Trp Trp Glu Glu Gly Lys Met Thr Ala
244      370      375      380
245 Lys Val Val Glu Ser Ala Lys Ala Ile Leu Gly Gly Ser Lys Val Arg
246 385      390      395      400
247 Val Asp Gln Lys Cys Lys Ser Ser Ala Gln Ile Asp Pro Thr Pro Val
248      405      410      415
249 Ile Val Thr Ser Asn Thr Asn Met Cys Ala Val Ile Asp Gly Asn Ser
250      420      425      430
251 Thr Thr Phe Glu His Gln Gln Pro Leu Gln Asp Arg Met Phe Lys Phe
252      435      440      445
253 Glu Leu Thr Arg Arg Leu Asp His Asp Phe Gly Lys Val Thr Lys Gln
254      450      455      460
255 Glu Val Lys Asp Phe Phe Arg Trp Ala Lys Asp His Val Val Glu Val
256 465      470      475      480
257 Glu His Glu Phe Tyr Val Lys Lys Gly Gly Ala Lys Lys Arg Pro Ala

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VERIFICATION SUMMARY

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DATE: 02/05/2002

TIME: 13:02:33

Input Set : N:\jumbos\022390

Output Set: N:\CRF3\02052002\J022390.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application Number
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date